flow recharge water to the deeper aquifers. These designated areas have been proposed to use highly restrictive regulations that would prohibit many types of industries and activities that could potentially release contaminants to ground water. The program includes special policies and regulatory requirements to provide especially stringent protection for the deep recharge zones. Full utilization of such controls is dependent upon the cooperation of the local towns, which have land use control powers but are reluctant to limit growth over such areas.

NEW JERSEY

Overview of Ground Water Resources

Ground water is very important in New Jersey and is used extensively throughout the state for public, industrial, domestic, and agricultural supply. Approximately 50 percent of the population of the state uses ground water as a source of drinking water. In 1980, about 730 million gallons per day of fresh water were pumped from aquifers in the state. However, areal and seasonal variations in ground water withdrawals can be significant.

The Coastal Plain is the largest physiographic province in New Jersey. The geology of the Coastal Plain is characterized by unconsolidated sand, gravel, silt, and clay thickening seaward from a feather edge at the Fall Line to more than 6500 feet thick in southern Cape May County.

The principal aquifers of the state are classified into two groups—Coastal Plain aquifers south of the Fall Line and non-Coastal Plain aquifers north of the Fall Line. The aquifers are described in Table 3.10 from the youngest to the oldest.

Ground Water Quality Issues

Major sources of contamination in New Jersey include septic tanks, municipal landfills, industrial landfills, surface impoundments, underground storage tanks, salt water intrusion, agricultural runoff, and pesticides. Other sources that have been identified are illegal dumping, leaky sanitary sewer lines, and abandoned wells. In October 1985, there were more than 400 active ground water pollution cases assigned to hydrogeologists in the Division of Water Resources, including 78 Superfund cases that involved ground water. Nearly 70 percent of the cases involved synthetic organic chemicals, primarily industrial solvents, and another 20 percent resulted from hydrocarbon discharges, including leaking gasoline tanks.